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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Karin H Butchko Carlson Gaskey & Olds Suite 350 400 W Maple Birmingham, MI 48009				
EXAMINER				
ROGERS, MARTIN K				
ART UNIT		PAPER NUMBER		
1791				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/501,591

Applicant(s)

WOESSNER ET AL.

Examiner

MARTIN ROGERS

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 18-25 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-17 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
- Paper No(s)/Mail Date 7/14/2004

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of 1-17 and 26 in the reply filed on 3/06/2009 is acknowledged. The traversal is on the ground(s) that Voss et al. do not disclose the subject matter required by claim 1. This is not found persuasive. In the third paragraph of page 7 of applicant's remarks, it is argued that Voss et al. (USP 3859408) do not anticipate the invention of claim 1 because Voss discloses a continuous process. However, in the original office action, the examiner did not rely on the invention of Voss, but rather what Voss disclosed as being known in the art at the time of the invention (Column 1, lines 15-34) in order to meet the limitations of claim 1. It is the examiner's belief that the sections of Voss referenced by the examiner (in addition to patents 2897840 and 2830622 as applied below in the present office action) further meet the language of claim 1 as it has been amended.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 18-25 and 27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected method of forming a hose, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 3/06/2009.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Voss et al. (USP 3859408).

In regards to claim 1, Voss discloses a process for forming a hose into a desired shape in which a hose preform is cut to length (Column 1, line 18-19), drawn into a forming tube having an inner surface defining a desired tube shape (Column 1, lines 19-20), cured along its length (including the ends) into a desired shape (Column 1, lines 24-25), and removed from the mold (Column 1, line 28).

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Roberts et al. (USP 2897840).

In regards to claim 1, Roberts discloses a process for forming a hose into a desired shape in which a hose preform is cut to length (Column 3, lines 4 and 17-18), drawn into a forming tube having an inner surface defining a desired tube shape (Column 3, lines 23-25), cured along its length (including the ends) into a desired shape (Column 3, lines 44), and removed from the mold (Figure 12).

6. Claims 1, 13 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Roberts et al. (USP 2830622).

In regards to claim 1, Roberts discloses a process for forming a hose into a desired shape in which a hose preform is cut to length (Column 2, lines 30-32), drawn into a forming tube having an inner surface defining a desired tube shape (Column 4, line 32), cured along its length (including the ends) into a desired shape (Column 2, lines 32-38 and Figure 3), and removed from the mold (Figure 5). Roberts states that the body 14 is cured (Column 2, lines 30-38). Because figure 3 shows that the moldable body 14 covers the end of the hose as well, it is the examiner's position that Roberts teaches that the entire length of the hose, including the ends, is vulcanized in the cylindrical mold. Because the hose has a distinct length and is in sleeve form (Column 1, lines 41-42), it must have been cut to size before being placed onto the forming mandrel (Column 1, lines 30-34).

In regards to claim 13, Roberts further discloses that rubber can be used to make the hose (Column 2, line 32). Rubber is a polymer.

In regards to claim 26, Roberts further discloses performing the process steps in the required order.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 3, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) as applied to claim 1 above, and further in view of Akman et al. (USP 4957687).

In regards to claims 2 and 3, although it would have been obvious to one of ordinary skill in the art at the time of the invention that the cylindrical tube (Column 4, line 32) of Roberts would need to be held in some manner during the molding process, Roberts is silent to the type of mechanism which is used to hold the cylindrical molding tube.

Akman discloses that when using a tubular cavity (Figure 1) to shape a hose, it is well known in the art to clamp the tubular cavity during the molding step (Column 3, lines 37-40) for the benefit of simultaneously securing the parison within the mold (Column 3, lines 37-38). Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to use a clamping mechanism to hold the cylindrical tube of Roberts stationary for the benefit of simultaneously securing the parison within the mold cavity.

In regards to claim 14, Roberts is silent as to the material used to create the cylindrical tube.

Akman discloses that when heating a hose preform within a molding tube, it is beneficial to construct the tube out of metal (Column 2, line 25) for the benefit of metal providing fast heating and cooling times (Column 2, line 29). Therefore, in order to provide rapid heating and cooling to the process of Roberts, one of ordinary skill in the art at the time of the invention would have found it obvious to construct the cylindrical mold out of metal, as taught by Akman.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) as applied to claim 1 above, and further in view of Voss et al. (USP 3859408).

In regards to claim 4, Roberts is silent as to the step of lubricating the hose before drawing it into the forming tube.

Voss discloses that one of ordinary skill in the art at the time of the invention would have found it obvious to lubricate the hose before drawing it into the molding cavity for the benefit of preventing stretching (Column 3, lines 59-62).

10. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) as applied to claim 1 above, and further in view of Sadr (USP 4865799).

In regards to claims 5, Roberts does not disclose the presence of a loading end and a vacuum end, where the step of drawing the hose includes inserting the first end of the hose into said loading end of said forming tube.

Sadr discloses that when loading an elongated parison into a tubular mold cavity (Abstract), it is beneficial to feed the parison into an end of the mold cavity which is opposite of a vacuum end for the benefit of the vacuum facilitating the loading of the parison into the mold (Column 2, lines 48-52). Therefore, one of ordinary skill in the art would have found it obvious to use the vacuum end and loading end taught by Sadr with the cylindrical tube of Roberts for the benefit of aiding in the loading the parison into the tube.

In regards to claim 6, Sadr further discloses that the vacuum be applied to the bottom end (vacuum end) (Column 2, line 49) of the mold cavity to facilitate loading of the parison.

In regards to claim 7, rather than using air pressure from the vacuum end to eject the molded parison from the mold cavity, Sadr utilizes a two-piece mold which is able to be separated in order to access the molded product. However, because Roberts discloses a cylindrical tube (Column 4, line 32) for the molding cavity, it would be necessary to remove the hose axially from the mold. Because Sadr discloses that a negative pressure at the vacuum end assists in moving the parison axially into the mold

cavity, it would have been obvious to one of ordinary skill in the art at the time of the invention that a positive pressure would assist in axially removing the formed parison from the mold cavity. Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to apply a positive pressure to the vacuum end of the cylindrical tube taught by Roberts for the benefit of ejecting the hose out of the molding cavity.

11. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) in view of Sadr (USP 4865799) as applied to claim 5 above, and further in view of Roberts et al. (USP 2897840).

In regards to claim 8, Roberts '622 discloses that there is at least one end cap on the hose in the mold cavity (Column 3, line 7), but it is unclear whether or not there is an end cap at both ends of the forming tube.

In US patent 2897840, Roberts discloses that when curing a rubber hose, it is beneficial to have end caps at both sides of the mold cavity (Figure 2: 13 and 14) for the benefit of allowing the interior of the hose to be pressurized within the molding cavity (Column 3, lines 29-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an endcap at both ends of the forming tube disclosed by Roberts in the '622 patent as taught by Roberts in the '840 patent for the benefit of allowing the interior of the hose to be pressurized.

In regards to claim 9, Roberts further discloses in the '840 patent that both ends of the hose be flush with their respective endcaps (Figure 2).

In regards to claim 10, one of ordinary skill in the art looking at Figure 2 of the '840 patent would appreciate that because the ends of the hose are completely within the molding cavity when they are positioned against the endcaps, they will be cured during the heating step. Furthermore, the need to trim any uncured portions from the hose is never mentioned in either the '622 patent or the '840 patent.

12. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) as applied to claim 1 above, and further in view of Hoshishima et al. (USP 5518035).

In regards to claim 11, Roberts does not disclose flaring at least one end of the hose.

Hoshishima disclose flaring at least one end of a hose (Abstract) for the benefit of creating a connection site where the hose can be attached to another part (Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the hose disclosed by Roberts with the flare disclosed by Hoshishima for the benefit of allowing the hose to be attached to certain structures.

In regards to claim 12, Hoshishima further discloses that the flare is created by inserting a plug into an end of the hose, the plug having an outer diameter which is greater than the hose's inner diameter (Figure 3).

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) as applied to claim 1 above, and further in view of Torghele (USP 4483815).

In regards to claim 15, Roberts discloses that the rubber hose needs to be heated within the cylindrical tube (Column 4, line 24), Roberts is silent as to the source of heat.

Torghele discloses that when a tubular hose is encased in a cylindrical tube, it is well known in the art to cure the hose by subjecting the exterior of a pipe to a heated fluid (Column 3, lines 40-43). Although the process of Torghele is designed to continuously cure a rubber hose, one of ordinary skill in the art at the time of the invention would appreciate from the disclosure of Torghele that by submerging the cylindrical tube taught by Roberts into heated steam, the rubber hose would become vulcanized. Therefore, one of ordinary skill in the art would have found it obvious to cure the rubber by submerging it in heated steam, for the benefit of this being a well-known curing method.

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) as applied to claim 1 above, and further in view of Houser (USP 4325355).

In regards to claim 17, Roberts discloses that the rubber hose needs to be heated within the cylindrical tube (Column 4, line 24), Roberts is silent as to the source of heat.

Houser discloses that it is well known in the art to create heat by employing an electric wrap (Column 3, line 13). Therefore, one of ordinary skill in the art would have found it obvious to use an electric wrap to create heat, as taught by Houser, to heat the cylindrical tube taught by Roberts for the benefit of this being a well-known method of supplying energy.

15. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (USP 2830622) as applied to claim 1 above, and further in view of Babbin et al. (USP 4512942).

In regards to claim 17, Roberts discloses that the rubber hose needs to be heated within the cylindrical tube (Column 4, line 24), Roberts is silent as to the source of heat.

Babbin discloses that it is well known in the art to cure rubber hose by subjecting them to microwaves (Column 1, lines 45-48). Although the process disclosed by Babbin

is a continuous process for curing rubber hoses, one of ordinary skill in the art at the time of the invention would have appreciated from the disclosure of Babbin that microwaves would also be capable of curing the rubber hose produced in the batch process of Roberts. Therefore, one of ordinary skill in the art would have found it obvious to cure the rubber with microwaves for the benefit of this being a well-known curing method.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN ROGERS whose telephone number is 571-270-7002. The examiner can normally be reached on Monday through Thursday, 7:30 to 5:00, and every other Friday, 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791